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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of: **Bi**	: Group Art Unit:	**TBA**
Serial No. **TBA**	: Examiner :	**TBA**
Filing Date **TBA**	: Date :	**November 21, 2001**
For: **Methodology of Reducing Areas With Multiple Dominant Pilots By Installing Simulcasting Elements Or Omni-Directional Base Station**	:	

Assistant Commissioner for Patents
Washington, D.C. 20231

PRELIMINARY AMENDMENT

Sir:

Please amend the above identified application as follows:

IN THE CLAIMS

Please substitute the following amended claims for the pending claims with the same number:

1. A method for reducing the effect of multiple dominant pilots in a CDMA communication system comprising the steps of:

locating a fixed transceiver element in a high density area of multiple dominant pilots

linking said element with a nearby base station for transporting and amplifying signals between said transceiver element and said nearby base station until the nearby base station is a dominant pilot signal; and,

transmitting from said fixed transceiver element forward link signals of a nearby sector associated with said nearby base station.

23. An apparatus for reducing the effect of multiple dominant pilots in a CDMA transmission system comprising:

a fixed transceiver located in an area of multiple dominant CDMA pilots wherein said fixed transceiver transmits forward link signals of a nearby base station;

a base station having an associated sector near said fixed transceiver; and

linking means coupling said fixed transceiver to said base station for enabling transporting signals between said fixed transceiver and said base station, and wherein said transceiver increases the signals strength of the nearby base station signals so as to reduce the number of dominant pilots and thereby the effect of multiple dominant pilots on the CDMA system.

Please add the following new claims

28. (New) A method for reducing the number of dominant pilots in a CDMA system where the signal levels of such pilots within a particular geographical area interferes with the systems ability to secure and to hand-off calls to other cells comprising of:

determining the location within a geographical area where a plurality of interfering pilot signals exceed a pre-determined dB threshold level as compared to the level of one of the dominant signals,

placing within the determined location a simulcasting element for boosting the signal level of the one dominant signal to a predetermined level so that the dominant pilot, and

utilizing said element to carry all signals from the cell served by the one dominant signal.

29. (New) The method of claim 28 wherein the simulcasting element is a repeater.

30. (New) The method of claim 28 wherein the predetermined dB threshold level is within a range of 3 to 6dB of the local signal strength.

31. (New) The method of claim 28 wherein the one dominant signal is the local signal from a cell within the geographical area.

32. (New) The method of claim 28 wherein the simulcasting element is an omni-directional cell.

33. (New) The method of claim 31 wherein said element receives forward link as well as reverse link signals said cell within the geographical area.

34. (New) The method of claim 31 further including a wired link connecting said element to said cell.

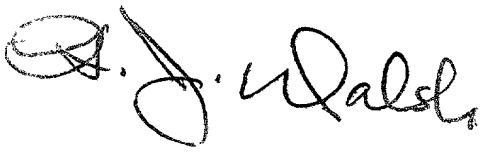
35. (New) The method of claim 31 further including a wireless link connecting said element to said cell.

CORRESPONDENCE AND FEES

Please address all correspondence to Intellectual Property Docket Administrator, Gibbons, Del Deo, Dolan, Griffinger & Vecchione, One Riverfront Plaza, Newark, New Jersey 07102-5497. All telephone calls should be made directly to Henry J. Walsh at 973-596-4855.

If there are any fees due in respect to this amendment, please charge them to Lucent Technologies Deposit Account No. 12-2325.

Respectfully submitted,



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I hereby certify that this correspondence (and any paper or fee referred to as being transmitted herewith) is being deposited with the United States Postal Service with sufficient postage as First Class Mail in an envelope addressed to : ASSISTANT COMMISSIONER OF PATENTS, WASHINGTON, D.C. 20231, on June 17, 1999

Rosangela Medina — Name

Rosangela Medina — Signature — 6-17-99 — Date

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Patent Application of:
BI et al.

Serial No.: **08/990,625**

Filed: **December 15, 1997**

Title: **METHODOLOGY OF REDUCING AREAS WITH MULTIPLE DOMINANT PILOTS BY INSTALLING SIMULCASTING ELEMENTS OR OMNI-DIRECTIONAL BASE STATION**

: Group Art Unit: **2732**

: Examiner: **Phunkulh, Bob**

: Atty. Dkt. No.: **BI 14-10-7-1-8**

: Date: **June 17, 1999**

Assistant Commissioner of Patents
Washington, D.C. 20231

AMENDMENT AND RESPONSE

Pursuant to the Office Action having a mailing date of March 23, 1999 and received in regard to the above-noted application, please enter the following amendments and remarks.

IN THE CLAIMS:

Please amend the following claims:

1. (Amended) A method for reducing the effect of multiple dominant pilots in a CDMA communication system comprising the steps of:

linking a fixed transceiver element with a nearby base station for transporting signals between said transceiver element and said nearby base station; and,

transmitting from said fixed transceiver element forward link signals having of a nearby sector associated with said nearby base station.

12. (Amended) A method for reducing the effect of multiple dominant pilots in a CDMA communication system comprising the steps of:

selecting at least one area having a high density area of multiple dominant CDMA pilots;

locating a fixed transceiver element in said selected at least one area;

linking said fixed transceiver element with a nearby base station for transporting signals between said transceiver element and said nearby base station; and,

transmitting from said fixed transceiver element forward link signals.

23. (Amended) An apparatus for reducing the effect of multiple dominant pilots in a CDMA transmission system comprising:

a fixed transceiver located in an area of multiple dominant CDMA pilots wherein said fixed transceiver transmits forward link signals;

a base station having an associated sector near said fixed transceiver;

linking means coupling said fixed transceiver to said base station for enabling transporting signals between said fixed transceiver and said base station.

REMARKS

Claims 1-27 are pending in the application..

Claims 1-27 are rejected.

Claims 1, 12 and 23 have been amended.

I. 35 U.S.C. § 112 Rejections

The Examiner has rejected claims 1-23 under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claiming the subject matter which applicant regards as his invention. Specifically the Examiner has rejected independent claims 1, 12 and 23 which recited "reducing multiple dominant pilots" in the preamble as being indefinite.

The Applicants traverse this particular grounds of rejection. However, in the interest of prosecution efficiency, Applicants have amended claims 1, 12 and 23 to clarify that the present invention is useful for reducing the **effect** of multiple dominant pilots in a CDMA transmission system. The preambles of claims 1, 12 and 23, as amended, recite a method for "reducing the effect of multiple dominant pilots." Applicants respectfully submit that the amended claims overcome the 35 U.S.C. § 112 rejections. Reconsideration is respectfully requested.

Additionally, Applicants respectfully submit that claims 2-11, 13-22 and 24-27, by their dependency on amended independent claims 1, 12 and 23 respectively, similarly overcome the 35 U.S.C. § 112 rejections. Reconsideration is respectfully requested.

II. 35 U.S.C. § 102(e) Rejections

The Examiner rejected claims 1-6, 8-19, 21-23 and 25-26 under 35 U.S.C. § 102(e) as being anticipated by Takai et al. (U.S. Patent No. 5,771,451). The Applicants traverse this particular grounds of rejection. The present invention is not anticipated by Takai.

Claims 1-6, 11-13, 15, 17-18, 23 and 25-26:

The Examiner rejected claims 1-6, 11-13, 15, 17-18, 23 and 25-26 under 35 U.S.C. § 102(e) as being anticipated by Takai et al. Specifically, the Examiner states that Takai et al. disclose a method and system of transmission power control in a cellular mobile communication system which uses a CDMA method wherein the system comprises a mobile station 3 located in an area of multiple dominant CDMA pilots wherein the mobile station 3 transmits signals to base station using uplink or forward link with less power than the signals from the base stations.

In the interest of prosecution efficiency, the Applicants have amended independent claims 1, 12 and 23 to more clearly define the invention. Specifically, Applicants have amended claim 1 to add the limitation that the transceiver is a "fixed" element. The transceiver element is a fixed element which is linked to a nearby base station for transporting signals between the transceiver and a base station. The transceiver can be placed in a high dense area of multiple pilots.

In contrast, Takai et al. teach controlling power transmission in a CDMA network by transmitting forward and reverse signals through a mobile station (i.e. a cellular phone). Since Takai et al. teach a feedback current loop through a mobile unit, whenever the mobile unit moves out of an area with highly dense multiple pilots, the advantages of using a mobile station for reducing power transmission are no longer valid. In contrast, a fixed transceiver element is

stationary and can reduce the effect of multiple dominant pilots in a given geographical area permanently. Moreover, in Takai et al., the mobile unit must be powered on (i.e. off-hook) in order for the advantages of the teaching of Takai et al. to be effective in reducing the effect of multiple dominant pilots.

Claims 8-10, 14, 16, 19 and 21-22:

The Examiner rejected claims 8-10, 14, 16, 19 and 21-22 under 35 U.S.C. § 102(e) as being anticipated by Takai et al. Specifically, the Examiner states that Takai et al. disclose a method and system of transmission power control in a cellular mobile communication system which uses a CDMA method wherein the system comprises a mobile station 3 located in an area of multiple dominant CDMA pilots wherein the mobile station 3 transmits signals to base station using uplink or forward link with less power than the signals from the base stations.

In the interest of prosecution efficiency, the Applicants have amended independent claims 1, 12 and 23 to more clearly define the invention. Specifically, Applicants have amended claim 1 to add the limitation that the transceiver is a "fixed" element. The transceiver element is a fixed element which is linked to a nearby base station for transporting signals between the transceiver and a base station. The fixed transceiver element is preferably located in an area of highly dense CDMA multiple pilots.

In contrast, Takai et al. teach that the transceiver element is a mobile unit such as a cellular phone. Since Takai et al. teach a feedback current loop through a mobile unit, whenever the mobile unit moves out of an area with highly dense multiple pilots, the advantages of the invention are no

longer valid. Moreover, in Takai et al., the mobile unit must be powered on (i.e. off-hook) in order for the device of Takai et al. to reduce the effect of multiple dominant pilots.

Having distinguished the present invention over the cited art, withdrawal of the rejection under 35 U.S.C. § 102(e) is requested.

III. 35 U.S.C. §103 Rejections

The Examiner has rejected claims 7, 20, 24 and 27 under 35 U.S.C. 103(a) as being unpatentable over the Takai et al. reference. The Applicants traverse this particular grounds of rejection. The present invention is patentable over Takai.

Claims 7 and 20:

The Examiner stated that Takai et al. do not explicitly teach that the mobile station transmitting signals to the nearby base station with approximately 10 dB less power than the base station transmitting signals to the mobile station. The Examiner asserts, however, that it is well known in the art that the base station requires more power than the mobile station since the base station communicates with a plurality of mobile stations in its coverage area cell.

Applicants respectfully submit that claims 7 and 20 are patentable over the cited reference. As stated above, independent claims 1 and 12 have been amended to more clearly state that the transceiver element is fixed. Claims 7 and 20, which depend from independent claims 1 and 12 respectively, contain all of the limitations of independent claims 1 and 12 as well as novel subject matter disclosed in claims 7 and 20.

Fundamentally, Takai et al. disclose a different device than the present invention. Takai et al. teaches using variable power level control through a feedback current loop to minimize interference between codes in the same cell as the base station. The present invention, in contrast, discloses using a physical simulcasting element or omni-direction cell to increase local signal strength. There is no need for any kind of feedback loop in the present invention. Applicants respectfully submit that the basic structure of Takai et al. and the present invention are so fundamentally different that the present invention is patentable over Takai et al.

First, as stated above, Takai et al. do not disclose that the transceiver element is fixed. Moreover, unlike the present invention, since the transceiver unit of Takai et al. is a mobile unit, the advantages of reducing the effects of multiple pilots by fixed transceiver units is not available since the mobile units can move in and out of area of multiple dominant pilots. Furthermore, Takai et al. do not teach that the transceiver element can itself transmit signals directly to a mobile unit since the transceiver element of Takai et al. is itself a mobile station and needs a base station to communicate with other mobile stations. Applicants submit that numerous differences between the present invention and Takai et al. render the claims patentable over the Takai et al. reference. Applicants respectfully submit that claims 7 and 20 are now in condition for allowance. Early notice to that effect is earnestly solicited.

Based on the above amendments and remarks, applicants respectfully submit that the rejections set forth by the Examiner have been overcome and withdrawal of same is respectfully requested.

Claims 24 and 27:

The Examiner stated that Takai et al. do not explicitly teach that the mobile station is a repeater and comprises a receiver for reverse link signals. The Examiner asserts, however, that it is well known in the art that the mobile station could function as a repeater and comprise a receiver for reverse link or down link signals. Further the Examiner asserts that it would have been obvious to one of ordinary skill in the art at the time that the invention was made to provide the mobile station with the ability to function as a repeater without modifying or amplifying the received signals.

Fundamentally, Takai et al. disclose a different device than the present invention. Takai et al. teach using variable power level control to minimize interference between codes in the same cell as the base station. The present invention, on the other hand, disclose using a physical simulcasting element or omni-direction cell to increase local signal strength. Applicants respectfully submit that the basic structure of Takai et al. and the present invention are so fundamentally different that the present invention is patentable over Takai et al.

First, as stated above, Takai et al. do not disclose that the transceiver element is fixed. Moreover, unlike the present invention, since the transceiver unit of Takai et al. is a mobile unit, the advantages of reducing the effects of multiple pilots by fixed transceiver units is not available since the mobile units can move in and out of area of multiple dominant pilots. Furthermore, Takai et al. do not teach that the transceiver element can itself transmit signals directly to a mobile unit. Applicants submit that numerous differences between the present invention and Takai et al. render the claims patentable over the Takai et al. reference. Applicants respectfully submit that claims 24 and 27 are now in condition for allowance.

Based on the above amendments and remarks, applicants respectfully submit that the rejections set forth by the Examiner have been overcome and withdrawal of same is respectfully requested.

IV. Summary

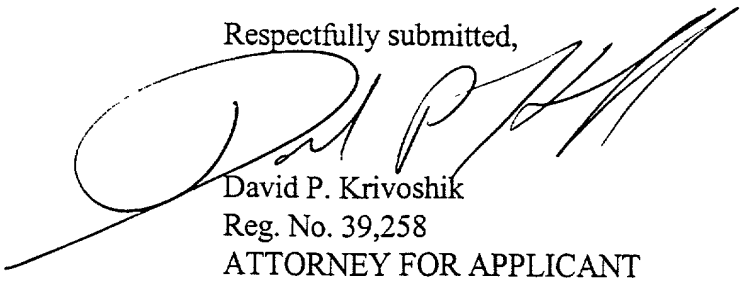
Having fully addressed the Examiner's objections and rejections, it is believed that in view of the preceding amendments and remarks, this entire application stands in a condition for allowance. If, however, the Examiner is of the opinion that such action cannot be taken, he is invited to contact the applicants' attorney at the number and address below in order that any outstanding issues may be resolved without the necessity of issuing a further Action. An early and favorable response is earnestly solicited.

Please address all future correspondence to Intellectual Property Docket Administrator, Gibbons, Del Deo, Dolan, Griffinger & Vecchione, One Riverfront Plaza, Newark, NJ 07102-5497. Telephone calls should be made to David P. Krivoshik, at (973) 596-4853 or (973) 596-4500.

V. Fees

If any additional fees are due in respect to this amendment, please also charge them to Deposit Account No. 12-2325.

Respectfully submitted,



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